

What is Claimed Is:

1. A process for determining estimated navigation signal error information, comprising the steps of:

providing a plurality of error information, receiver units (RU1, RU2, RU3, RU4) receiving navigation signals from at least one navigation signal transmission unit; providing at least one evaluation unit (EU) for evaluating the received navigation signals, and for transmitting navigation signal error information to user terminals (UT) of a radio navigation system;

- providing the evaluation unit (EU) with a plurality of error models;
- selecting one of said plurality of error models as a function of at least one defined selection standard;
- applying the selected error model for the determination of the estimated navigation signal error information to the received navigation signals; and
- transmitting the determined error information to at least one of the radio navigation system and to user terminals (UT).

2. The process according to Claim 1, wherein the error models have a first number of error components which all error models have in common, and have a second number of individual error components which are individually defined for each error model.

3. The process according to Claim 2, wherein the individual error components occur as linear combinations of defined basic error components.

4. The process according to Claim 3, wherein the basic error components

include at least one spatial error component and at least one time-related error component.

5. The process according to Claim 1, wherein a variance of the estimated navigation signal error information on a referenced grid in a defined reception area is used as the defined selection standard.

6. The process according to Claim 1, wherein a sum of one of the amounts and the squares of the estimated navigation signal error information at the locations of the receiver units (RU1, RU2, RU3, RU4) is used as the defined selection standard.

7. The process according to Claim 1, wherein a maximum of one of the amounts and the squares of the estimated navigation signal error information at the locations of the receiver units (RU1, RU2, RU3, RU4) is used as the defined selection standard.

8. The process according to Claim 1, wherein an integral with respect to one of an amount and the squares of the estimated navigation signal error information in the defined reception area is used as the defined selection standard.

9. The process according to Claim 1, wherein a maximum of one of the amounts and the squares of the estimated navigation signal error information in the defined reception area is used as the defined standard.

10. The process according to Claim 1, wherein the estimated navigation signal error information is weighted at least one of locally and in a time-related manner.

11. The process according to Claim 10, wherein the estimated navigation signal error information is weighted as a function of the density of the user terminals (UT) in a reception area.

12. An evaluation unit (EU) for evaluating navigation signals of a radio navigation system, comprising:

- an error model memory (MM) for storing error models for received navigation signals of the radio navigation system,
- a processing unit (PU) constructed for the selection of an error model as a function of a defined selection standard and for the application of the selected error model to received navigation signals, and
- a device (IDTU) for transmitting navigation signal error information to at least one of the radio navigation system and user terminals (UT).

13. The evaluation unit according to Claim 12, wherein the evaluation unit (EU) is constructed as an evaluation unit of at least one satellite navigation system.

14. A computer program product containing a machine readable program carrier storing a computer program for determining estimated navigation signal

error information of a radio navigation system, the computer program being constructed for an interaction with devices (PU, MM, IDTU) of an evaluation unit (EU) according to Claim 12, and the computer program furthermore being constructed

- for controlling the reading of several error models out of an error model memory (MM),
- for selecting one of the several error models as a function of at least one defined selection standard,
- for determining the estimated navigation signal error information while applying the selected error model to the received navigation signals, and
- for controlling the transmission of determined error information to the radio navigation system (2) and/or to user terminals (UT).

15. The process according to Claim 2, wherein a variance of the estimated navigation signal error information on a referenced grid in a defined reception area is used as the defined selection standard.

16. The process according to Claim 3, wherein a variance of the estimated navigation signal error information on a referenced grid in a defined reception area is used as the defined selection standard.

17. The process according to Claim 4, wherein a variance of the estimated navigation signal error information on a referenced grid in a defined reception area is used as the defined selection standard.

18. The process according to Claim 2, wherein a sum of one of the amounts and the squares of the estimated navigation signal error information at the locations of the receiver units (RU1, RU2, RU3, RU4) is used as the defined selection standard.

19. The process according to Claim 3, wherein a sum of one of the amounts and the squares of the estimated navigation signal error information at the locations of the receiver units (RU1, RU2, RU3, RU4) is used as the defined selection standard.

20. The process according to Claim 4, wherein a sum of one of the amounts and the squares of the estimated navigation signal error information at the locations of the receiver units (RU1, RU2, RU3, RU4) is used as the defined selection standard.